

The Construction of Weaves

By E. Bittner

COLOR EFFECTS

By introducing light colored threads in warp and filling the appearance of the goods can be greatly changed, very attractive effects being obtained with simple weaves. Colored threads are commonly used for fancy goods and their arrangement in the fabrics is of special importance in determining the appearance of the pattern.

The effect produced with a given weave by different colors in warp and filling can be determined in advance of weaving by the following method:

The draftsman selects:

- (a) The weave to be used.
- (b) The arrangement of the colors in the warp.
- (c) The arrangement of the colors in the filling.

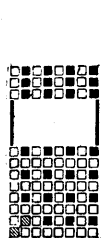


FIG. 517.

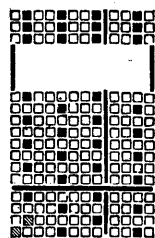


FIG. 518.

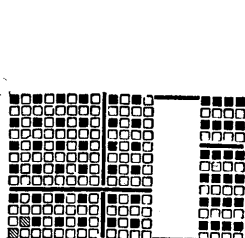


FIG. 519.

(d) Size of the pattern; this depends on the number of warp threads in the weave pattern and the number in the color pattern, and is the least common multiple of these two numbers. For example:

Weave, 4 warp threads; color pattern, 14 warp threads. The number of threads in the pattern in the cloth is then found as follows:

$$2 \times 7 = 14$$

$$2 \times 2 = 4$$

$$2 \times 2 \times 7 = 28 \text{ warp threads in pattern.}$$

Weave, 6 picks; color pattern, 14 picks. Then:

$$2 \times 3 = 6$$

$$2 \times 7 = 14$$

$$2 \times 7 \times 3 = 42 \text{ picks in pattern.}$$

(e) After the size of the pattern is found the weave is drafted on cross section paper for the corresponding number of warp and filling threads, the arrangement of the threads

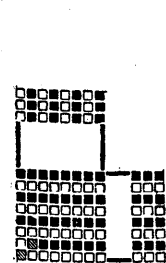


FIG. 520.

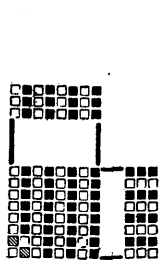


FIG. 521.

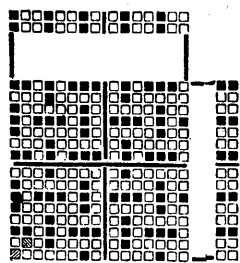


FIG. 522.

being indicated at top or bottom for the warp, and at right or left side for the filling. If colors are used for the draft the weave is then inserted by marking the risers of the warp with the same color as has been used at top or bottom of the sketch; and by marking the warp sinkers (filling risers) with the respective colors at the right or left of the sketch. In order to show the weave plainly, it is drafted without colors in the lower left-hand corner of the sketch.

An unlimited number of effects can be produced by color and weave combinations.

COLOR EFFECTS ON A PLAIN WEAVE.

Figs. 517 to 533 illustrate the production of color effects on the plain weave.

Moving the plain weave, one warp thread or one pick on the color pattern always changes the effect in the cloth, for which reason the warp and filling colors must be brought into exactly the same position as marked on the draft when the cloth is woven.

The scale of the cross section paper must correspond with the threads per inch in warp and filling in order to show the same effect as in the cloth.

Fig. 517. Warp, 1 light 1 dark. The black squares indicate the light colored warp risers. The plain weave in this and following drafts is marked in the lower left-hand corner.

Fig. 518. Warp, 1 light 1 dark 1 light. Warp pattern, 6 threads.

Fig. 519. Color pattern in filling, 1 light 1 dark.

Fig. 520. Warp and filling, 1 light 1 dark. The color effect is marked as on Figs. 517 and 519, producing a distinct cross stripe in the cloth.

Fig. 521. A distinct stripe warpways with the same color pattern in warp and filling as in Fig. 522. The change results from moving the weave one warp thread to the right or left, or one pick higher on lower.

FIG. 523.

FIG. 524.

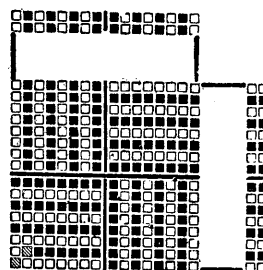
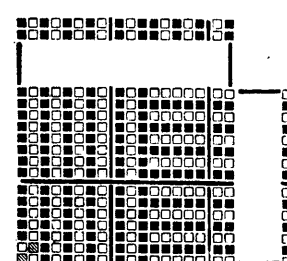
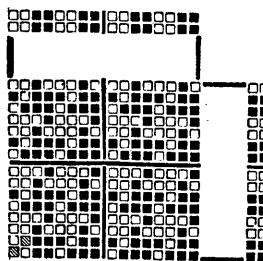


FIG. 525.

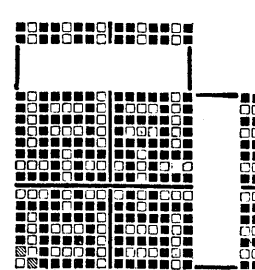


FIG. 526.

Fig. 522. Warp, 1 dark 2 light. Filling, 2 light 1 dark. Pattern 6x6.

Fig. 523. Warp, 2 light 2 dark. Filling, 2 dark 2 light. Pattern, 4x4. Extensively used for coarse goods.

Fig. 524. Combination of warp and filling stripes. Warp, 1 dark 1 light 5 times, 1 dark, 1 dark 1 light 5 times. Filling, 1 light 1 dark.

Fig. 525. Combination of warp and filling stripes in both directions, producing a block effect.

Fig. 526. Warp, 1 dark 1 light 1 dark. Filling, 1 dark 1 light 1 dark 1 light 1 dark. Pattern 6x10.